BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: September 20, 2017
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Matt Urban
Sarah Large
Ron Crickard
Mark Hemmerlein
Marc Laurin
Meli Dube
Josh Lafond
Kathy Corliss
Jennifer Reczek
Joseph Adams
Charles Willeke
Jason Trembley
John Butler
Tobey Reynolds
Jim Kirouac
Tim Mallette
James Bowles

ACOE
Mike Hicks

EPA
Mark Kern

NHDES
Gino Infascelli
Chris Williams

NHF&G
Carol Henderson

NH Natural Heritage Bureau
Amy Lamb

Consultants/Public Participants
Joshua McAllister
Vicki Chase
Thomas Marshal
Darren Blood
Kim Smith
Christine Perron

(When viewing these minutes online, click on an attendee to send an e-mail)

PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH:
(minutes on subsequent pages)

(When viewing these minutes online, click on a project to zoom to the minutes for that project)

NOTES ON CONFERENCE:

Finalization August 16, 2017 Meeting Minutes
Matt Urban asked the group if they had any additional comments for the August 16, 2017 meeting. BOE had received comments from only Carol Henderson. The group did not have any further revisions. The minutes were finalized and posted in a subsequent day.

Northfield, #29756 (Non-Federal)
Joshua McAllister from HEB Engineers, Inc. (HEB) provided an overview of the LPA project. The project involves reconstruction improvements on 2.3 miles of Sandogardy Pond Road in Northfield. The purpose of the project is to reconstruct the pavement, improve drainage, replace Cross Brook pipe arch and make improvements to the roadside ditches and culverts along the road. Sandogardy Pond Road is a 20-foot wide, two-lane road within a 66-foot right-of-way. The bridge over Cross Brook is a 13-foot, single-span, metal pipe arch with much corrosion. There is a beaver dam downstream, with the size of the current culvert the ponding is compounding flow. Permit applications have been submitted for Wetland and Shoreland in August 2017. Josh anticipates Final Design to be complete in January 2018 with construction to begin spring or summer of 2018.

Several alternatives were discussed. The preferred alternative is a 20-foot wide paved roadway with 1-foot gravel shoulders, matching existing roadway width, alignment, and profile. Existing pavement will be removed with a 2-foot deep box cut excavation. The roadside drainage will be managed with deep ditches, and all culverts will be upsized. The preferred alternative for the replacement of the pipe arch at Cross Brook is a precast concrete arch bridge

There are eight (8) wetland impact areas along the Sandogardy Pond Road. Impact Area #1 involves the replacement of two (2) 15-inch corrugated metal pipe (CMP) culverts with two (2) 18-inch reinforced concrete pipe (RCP) culverts with concrete headwalls; permanent impacts are 653 square feet. Impact Area #2 involves the replacement of a 15-inch CMP culvert with an 18-inch RCP culvert and concrete headwalls; permanent impacts are 86 square feet. Impact Area #3 involves the removal of the 13-foot single span metal pipe arch and replacing with a new precast concrete arch bridge; permanent impacts are 398 square feet. Impact Area #4 involves replacing the 18-inch CMP culvert and headwalls with a 24-inch RCP culvert and concrete headwalls; permanent impacts are 362 square feet. Impact Area #5 involves the replacement of the 42-inch CMP culvert and headwalls with a 48-inch RCP culvert with concrete headwalls; permanent impacts are 91 square feet. Impact Area #6 involves the removal of a 15-inch CMP culvert and replacing with a 24-inch RCP culvert and concrete headwalls; permanent impacts are 156 square feet. Impact Area #7 involves the replacement of an 18-inch CMP culvert with a 24-inch RCP and concrete headwalls; permanent impacts are 165 square feet. Impact Area #8 involves replacing the 12-inch CMP culvert with an 18-inch RCP culvert and concrete headwalls; permanent impacts are 569 square feet.

Shoreland Impacts include an additional 762 square feet of impervious area within the 50-foot woodland buffer. A Shoreland PBN was received on August 22, 2017.

Mike H. asked about IPAC to address other endangered species. Mike would like HEB to fill out 4(d) form for bats. He would also like HEB to coordinate with US Fish & Marine regarding the Cross Brook crossing. Mike asked about the Historical & Archaeological review. Mike also asked a about flood plain and flood storage, he will need to know more about the impacts.

Carol H. asked if HEB can keep same invert elevations for connectivity and if any are perched to please address this. There was also a question about not meeting stream crossing rules. Josh responded that the bank full width is very wide but the channel is in a large wide valley and due to the ponded area it was

difficult to identify the bank full width. The wetted channel is much narrower. The H-H report meets NHDOT standards, passes with 1 foot of freeboard for 50-year storm event and does not overtop during a 100-year storm event. Overall, there is less than 1 acre of wetland impacts.

The Natural Heritage Bureau has been contacted and indicated that there are sensitive species in the area and that they have no concern that the project will result in any impact by the proposed project.

Matt Urban recommended that HEB try to come to a Natural Resources Meeting prior to submitting permits.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Newport, #29763 (Non-Federal)
Vicki Chase introduced the project. The project is non-federal, municipally managed project. The South Branch of the Little Sugar River is a 4th order stream with a 31 square-mile watershed, so Tier 3 stream major impact wetland permit and a shoreland permit will be required. Landscape setting is rural with scattered residential.

Thom Marshall described the existing conditions of the bridge. The existing bridge was built in 1988 by the town, was red-listed in 2014, recently patched but is structurally deficient primarily due to the deck.

Three rehabilitation alternatives have been studied. The existing beams were salvaged from another bridge.

- Rehabilitation alternatives
  - Deck Replacement (Alt. 1) using the existing beams
  - Superstructure Replacements
    - **Rolled Beams with Composite Deck (Alt. 2)**
    - Precast NEXT Beams with Composite Deck (Alt. 3)
- Replacement Alternatives
  - Match Bank Full Width (BFW) (Alt. 4)
  - 1.4 BFW (Alt 5.)
  - 2.2 BFW (Alt 6.)

Alternative 2 was selected, front faces of abutments will be maintained. Existing wingwalls are inadequate so extended wingwalls are proposed to stabilize surrounding slopes. The roadway will be widened slightly. The project will involve new riprap around the abutments that will be in wetlands jurisdiction. The Q100 is 4' below the low chord but they are looking to match or raise the low chord.

Vicki Chase reviewed natural resources at the site. FEMA mapped floodplain and floodway. No rare species other than the potential for Northern Long-Eared Bats. Brook trout are stocked in the river and wild rainbow trout are in at least one nearby stream. No TOY restrictions were recommended at this time.

The Connecticut River and all its tributaries are mapped as Essential Fish Habitat for Atlantic Salmon but the National Marine Fisheries Service has recently determined that because they are no longer present, consultation for projects on the Connecticut or its tributaries is no longer needed, as long as impacts are avoided and minimized.

Invasive Species – Japanese knotweed on the northwest bank.

Permanent impacts (~ 400 square feet) are associated with infrastructure protection so no compensatory mitigation is proposed.

T. Marshall reviewed potential water diversion methods. Temporary impacts would depend on the type of diversion structure to be used. A portadam, a framed structure with a membrane would be lain on the streambed (approximately 2,800 square feet of impact) or if sheetpile or sandbag cofferdams were used would result 1,600 square feet of impact. There is a desire to keep costs as low as possible. A third option would be to run a row of sheetpiles or sandbags across the entire channel width both upstream and down to create temporary headwalls so that the water could be channeled through pipes near the center of the river.

Mike Hicks commented that sheetpile diversions would not be counted as ACOE impacts but sandbags would.

M. Hicks asked if an IPaC form had been submitted, it has and only Northern Long-Eared Bats were identified. A 4d informal consultation form will be submitted to USACE.
M. Hicks asked if floodplain impacts were anticipated and said that floodplain compensation would be required if so.

M. Hicks asked if Section 106 had been started. The bridge falls under the 2014 Programmatic Agreement between FHWA, ACHP, NHSHPO and NHDOT, and the recordation form has been submitted to NHDHR.

Carol Henderson commented that her preference would be for the work to be undertaken so there was always flow in the river and was not in support of an option that would block the entire stream and bypass water through pipes.

Gino Infascelli indicated that riprap extended past its current location would require mitigation.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Bedford, #13692-C (X-004(254))
Vicki Chase introduced the project. The project is a federally funded bridge rehabilitation / replacement project. Pulpit Brook is a relatively small stream with extensive wetlands on both the north and south sides. The setting is rural with scattered residential with conservation land abutting the bridge right of way to the north.

Thom Marshall described the existing bridge, which was built in the 1950's and consists of two five-foot diameter culverts. The bridge was red-listed in 2008. The downstream end has a mortared rubble wall and the upstream end headwall was rebuilt in 2011. Engineering study is currently being developed. Based on preliminary hydraulics a 48-foot span is proposed, which would meet the stream crossing guidelines. The bankfull channel is 22' wide with wildlife corridors on each side.

Two alternatives are under consideration. A Conventional precast superstructure on cast-in-place abutments matching existing geometry of the roadway. A temporary bypass will be required (traffic volumes 20,000 vehicles per day) for this conventional alternative. Second alternative is accelerated bridge construction which would require a short term detour and no temporary bypass. Geotechnical information is not yet available.

V. Chase reviewed natural resources. There are forested wetlands to the south that would be affected by a temporary bypass. These will be reviewed in the spring to determine whether they are functioning as vernal pools. Pulpit Brook is a 2nd order stream, crossing is a Tier 3 stream with a 5.29 square mile watershed and no impairments.

There are state listed Blanding's turtles in the vicinity of the project. NHF&G has requested that sufficient aquatic organism passage be provided and that no plastic netting be used.

Carol Henderson noted that she spoke to Kim Tuttle who says the Blanding's turtles are nesting in the direct vicinity of the bridge and suggested that timing of construction, fencing to isolate construction, and reporting to NHF&G of any observed nesting activities will be required. No fisheries recommendations were noted by NHF&G.

There is a FEMA mapped floodway.

Currently no additional mitigation is proposed. There would be under 1,000 square feet of impact and the result would be a huge improvement. If the temporary detour were utilized there would be approximately 25,000 square feet of temporary impact.

C. Henderson asked for additional details about the wildlife platform under the bridge. There will be a 4.8' platform (made of riprap) on either side of the bridge. The proposed abutments are outside of the existing pipes.

Mike Hicks asked about northern long-eared bat coordination and Section 106 coordination. Bat coordination would be handled under FHWA's range-wide programmatic agreement.
M. Hicks asked about impacts to the 100-year floodplain. There will be a net removal of material from the floodplain.

Mark Hemmerlein noted that the project was within the urbanized area regulated under the NPDES Phase II MS4 permit.

Gino Infascelli asked about stormwater treatment. T. Marshall said design is in progress. If the bypass is pursued stormwater treatment can be constructed as part of the site restoration.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Newport, #16109 (X-A001)
Vicki Chase introduced the project. The project is a federally-funded, municipally managed project. The Sugar River is a 4th order stream with a 210 square mile watershed. The bridge is set in a rural location with a recreational trail to the west of the bridge. NEPA is not yet complete for the project as the Memorandum of Agreement for Section 106 has not been completed.

Thom Marshall described the existing conditions of the bridge. The existing bridge is a 1937 108' clear span Warren Truss that has been previously rehabilitated and was red-listed due to the superstructure, with the substructure also rated as poor. The deck is in satisfactory condition.

Several alternatives were studied, with the selected alternative being a complete replacement with a 120'-6" single-span. The western abutment will be moved to the west, but the eastern abutment will remain at the same location because of a National Register eligible structure (currently occupied) that lies directly next to the bridge abutment. Wetland impacts total ~1,300 square feet permanent and ~2,700 square feet of temporary impact. Wetland impacts associated with the project are mostly related to opening up the stream channel and reconstructing the banks. A bridge that would be fully compliant with the NH Stream Crossing rules would have required excavation into the bank to create a wider opening, which was deemed to be more impacting than the proposed condition. The low chord of the proposed bridge will be slightly higher than the existing bridge and will pass the Q100 flood.

Drainage - There is little space to provide treatment on the east side of the bridge because of existing structures. Drainage will flow from catch basins through the NE wingwall and through an existing pipe that flows to the north. On the west side there is an existing drainage swale. A relocated drainage swale will be provided for the outlet of the pipe beneath Greenwood Road that is to be replaced as part of the project.

Natural Resources – The Sugar River is a 4th order stream or larger [6th order], and a Tier 3 stream crossing. It will require a Major Impact wetland permit and a Shoreland permit. The northwest parcel adjacent to the project was funded in part with LWCF funding, but project will not impact the trail.

Rare Species – State-listed Brook Floaters were identified as occurring nearby but NHF&G indicated that they were not in the vicinity of the project. Wood Turtles were also identified, and NHF&G provided guidance for using biodegradable netting and for watching out for wood turtles during construction.

Brook Trout – the river is stocked with brook trout, and the bridge is used as a stocking site. There is an environmental commitment that access will be maintained during construction.
The Connecticut River and all its tributaries are mapped as Essential Fish Habitat for Atlantic Salmon but the National Marine Fisheries Service has recently determined that because they are no longer present, consultation for projects on the Connecticut or its tributaries is no longer needed, as long as impacts are avoided and minimized.

Carol Henderson inquired is wildlife shelves were proposed. T. Marshall responded that a shelf would be constructed along the western bank of the river, but it would be made of riprap. The

eastern side has a retaining wall south of the project (outside of the project area) that would prohibit passage of terrestrial wildlife, so no attempt is being made to provide a shelf on the eastern side but a shelf already exists during ordinary high water.

Mitigation – NHDOT proposes that the project is self-mitigating since it is an improvement over the existing condition.

Mike Hicks asked about the status of the Section 106 MOA. T. Marshall indicated that it has been executed by DHR and the town, but not yet by NHDOT. The MOA is a critical path item.
M. Hicks asked about floodplain impacts. T. Marshall indicated that he was not sure and would double check. Due to the significant amount of fill being removed to create the larger span opening it is anticipated that there will not be a decrease in floodplain storage. This will be confirmed prior to submitting the permit application.

The Sugar River is impaired by pH and Aluminum but the project proposes a decrease of impervious of about ~2,000 square feet.

Gino Infascelli asked about the road width. The existing width is 19', but is being widened to 24'. G. Infascelli asked where the decrease in impervious was from. V. Chase stated that the bridge was not included in this calculation. Mark Hemmerlein indicated that the deck should be included as impervious. [The net increase in impervious including the bridge deck is 1,145 square feet.] M. Hemmerlein said that options for treatment should be evaluated. T. Marshall explained that coordination with AoT had occurred and it had been determined that the thresholds for requiring an AoT permit were not met. [As an LPA project it is not subject to the memorandum of Agreement between NHDOT and NHDES.]

This project has been previously discussed at the 1/20/2017 Monthly Natural Resource Agency Coordination Meeting.

Durham, #16236 (X-A0001(202)

Darren Blood introduced the project. The current crossing is a 15-foot slab bridge on the east side of the causeway, underlain by marine clay. The bridge was updated in the 1970's. The project has been to a public hearing and as a result the alignment has been shifted 7-10 feet northward to minimize private property impacts on the south side. This also required a modification to the profile, but the bridge is still being raised by four feet. The sight distance from Morgan Way west is substandard, and raising the bridge will fix the geometric deficiencies.

At the February 2015 meeting a 61-foot clear span bridge was presented, but the proposed action is a 76-foot span bridge. There are existing wood piles from the previous structure buried in the causeway, extending back on either side of the crossing, and in order to utilize rapid construction techniques conflicts with these subsurface wooden piles have to be avoided. Proposed traffic control is a detour for 14 days. The roadway section is 12' lanes with 5' shoulders and design speed is 45 mph.

Mike Hicks asked if a hydraulic study has been done to study the effects of a wider opening. A hydraulic study has been done and velocities are actually reduced resulting in less scour. Mike asked if this would

result in flooding to downstream abutters. The receiving water just downstream of the bridge is Oyster River, which is a much larger river, and Bunker Creek is tidal. No abutters downstream will be affected. Vicki Chase discussed environmental resources and proposed impacts. NEPA has not yet been completed. NHB Report NHB17-2706 was updated based on surveys completed in response to earlier NHB checks. There are Exemplary Natural Communities - Brackish Marsh (upper reaches of Bunker Creek); High Salt Marsh (present along roadway – predominately to the north); Sparsely vegetated intertidal/subtidal system (present along roadway – predominately to the south); and Subtidal system.

Two state listed species were previously identified - crested sedge (Carex cristatella)– surveyed but habitat not found in 2014, and New England Cottontail – surveyed in 2013, determined no habitat present. Bunker Creek is Essential Fish Habitat for Winter Flounder. Coordination is ongoing – NMFS has requested minimization of impacts, appropriate mitigation for loss of habitat, and TOY restriction from Feb 15 – June 30. Department may seek to narrow the window to June 15.

Bunker Creek and Oyster River are both impaired for Dioxins, DO, Bacteria, Impaired Biota, Turbidity, Mercury, Nitrogen, PCB's. There will be a 3,729 sf increase in impervious surface.

D. Blood addressed stormwater treatment. There is a conceptual treatment swale on northeast side of bridge on town land. Stormwater currently draining southward into one of two culverts under the road will be captured and treated.

V. Chase provided a summary of proposed wetland impacts.

		TEMP	**PERM**		**TOTAL**
INTERTIDAL		10,946	6,703		17,649
SUBTIDAL		76	1,962		2,038
TBZ		10,571	19,814		30,385
PALUSTRINE		1,616			1,616
INT STREAM		7,750	1,214		8,964
TOTAL		**30,959**	**29,693**		**60,652**
TOTAL ACOE		**20,388**	**9,879**		**30,267**

[NOTE: Subsequent to the meeting impacts were revised as follows due to errors identified in table:]

	PERM	***TEMP***	***TOTAL***
INTERTIDAL	*12,009*	*1,484*	*13,493*
SUBTIDAL	*76*	*497*	*573*
TBZ	*16,855*	*25,033*	*41,888*
PALUSTRINE	*1,616*		*1,616*
INT STREAM	*403*	*2,679*	*3,082*
TOTAL	***30,959***	***29,693***	***60,652***

TOTAL ACOE	***14,104***	***4,660***	***18,764***

Because of the salt marsh impacts, and based on feedback at the February 2015 NRA meeting, it is assumed that the project will require an Individual USACE permit.
Proposed mitigation for the project is an in-lieu fee. Preliminary calculations total $195,805.44.

Durham 16236 US Route 4 over Bunker Creek In-Lieu Fee Calculation			
	area (sf)	in lieu fee	
tidal wetlands	12,085	$108,071.00	(tidal wetlands - double usual rate)
freshwater	1616	$7,225.60	
undeveloped TBZ	16,855	$75,363.00	
intermittent stream	21	$5,145.84	(linear feet)
TOTAL		**$195,805.44**	

Permits required are NHDES Major Impact NHDES wetlands and Shoreland, USACE Individual Section 404 permit, CZMA Consistency Certificate and a 401 WQ cert. No U.S. Coast Guard Bridge permit will be required.
M. Hicks noted that there may be some flexibility in the new Section 404 Programmatic General Permit with regard to Special Aquatic Sites. There may be a threshold for Salt marsh impacts, and not all mudflats qualify as Special Aquatic Sites. NAI will coordinate with USACE to confirm what permits are needed. [*M. Hicks followed up on October 10, 2017 to NHDOT, FHWA, and U.S. Coast Guard that USACE was confident the project would qualify for the Programmatic General Permit issued on August 18, 2017*.] M. Hicks also noted that coordination with NMFS for ESA may also be required.

M. Laurin said he has been in communication with Max Tritt and that coordination is ongoing.
Section 106 coordination has been completed, and the project has been to a public hearing.
D. Blood discussed the schedule and the Design Build process.

GM2 will put together an RFQ and an RFP with the Department. There will be technical concepts that will be entertained. The Design Build engineering firm may propose alternatives to the 76-foot bridge. However, the impacts will be the same as for the longer bridge because most of the impacts are related to the roadway width and fill along the toe of slope of the causeway.

Permitting will start in the 2nd quarter of 2018 so the project will be ready to go to construction in the fall of 2019. The actual 14-day construction closure will occur in the summer of 2020.

C. Henderson recommended confirming with Heidi Holman of NHF&G that she agrees with the assessment that no New England Cottontail habitat is present. She also agreed that riprap should be minimized to the extent possible. In the 2015 meeting minutes there was a concept of using NHF&G property for stormwater treatment. That plan has not been pursued.

Amy Lamb asked if there would be encroachment on the Exemplary Natural Communities identified by NHB. NAI will coordinate with NHNHB to answer their concerns.

Gino Infascelli asked when the application would be submitted in the design process. The permit applications will show the design being presented. If the design builder wants to change the design and increase the impacts, they will have to obtain permits for those impacts, and assume the risk for any project delays this could create. M. Hicks cautioned that changes in design could delay the project. G. Infascelli pointed out that the design would go to G&C for approval so it wouldn't matter if the impacts were the same, if the design had changed.

This project has been previously discussed at the 11/20/2013 and 2/18/2015 Monthly Natural Resource Agency Coordination Meetings.

Barnstead, #14121 (X-A000(208))

Joshua Lafond – Provided an overview of the project describing the overlap with the Barnstead 14121E project that is currently under construction. He described that the project will increase the roadway typical from the existing 12' travel way and 1' shoulder to a 12' travel way and 4' shoulder typical. In addition to the increase in the shoulder width, the horizontal and vertical alignments of NH Route 28 will be modified to provide safety improvements at the intersection of NH Route 28 and North Road and North Barnstead Road. The drainage located within the project limits will be improved with 6 treatment swales proposed to be located throughout the project to treat storm water runoff.

Kathy Corliss – Explained the location of the 48" culvert at the northern end of the project was constructed during the 1930's, drains into Halfmoon Lake and has one recorded occurrence of water overtopping the roadway around 2006. She reviewed the following alternatives and stated that all options are hydraulically compliant:

1. Stream Crossing Compliant 12' Open Span – would potentially have least permanent bank and channel impact but could be the most expensive option with a current estimate of $120,000 – $170,000. (After meeting it was clarified that not mitigation is required for stream compliant structures)
2. Twin 54" RCP pipes – would have greater bank and channel impacts, but would be the most economical with a current estimate of $54,000.
3. Twin 66' and 54" Poly Coated CMP Arches – similar bank and channel impacts to the Twin 54" RCP pipes option with a current estimate of $84,000 with no additional benefits over the Twin 54" RCP pipes other can cover over the pipes.
4. 8'x5' Box Concrete Box Culvert – would be similar to the 12' Open Span option but would require additional impacts for clean water bypass and be less expensive with a current estimate of $110,000.

K. Corliss explained that all these options do not currently have any mitigation costs included within the estimates and described that the preferred option for design is currently the Twin 54" RCP pipes.

Mike Hicks asked if the application discussed at the meeting today would be for the entire project or specifically for this culvert and asked if any wetland impact numbers had been quantified yet. *Ron Crickard answered that the project will have less than 3 acres of impact but no impacts have been calculated yet for the project.*

Gino Infascelli stated that the preferred option of the Twin 54" RCP pipes does not consider an option for wildlife passage. Carol Henderson added that the existing 48" culvert appears to be perched at the outlet. Tim Mallette responded that the proposed options would lower the inverts for the pipes and that the

modeled water levels would allow for continuous flow through the proposed pipes. No perch would be present in any of the proposed options.

Mark Kern asked if any wildlife kills information was available for the location. K. Corliss answered that Highway Design does not have any information on wildlife kills but could touch base with District on this. G. Infascelli suggested Highway Design consider adding a dry wildlife passage similar to the Rochester project with potentially finding a location offset from the Twin 54" RCP pipes to install a wildlife corridor.

M. Kern asked how important the compliance and wildlife passage is in this location and noted mitigation costs associated with the alternative options could make the Stream Crossing Compliant 12' Open Span option more desirable. Further discussion with Lori Sommer would be needed.

Amy Lamb indicated that the NHB for the project has expired and added that a Loon nest is located at the inlet of Halfmoon Lake. C. Henderson stated that a time of year restriction for construction may be required. *Matt Urban replied that the loon nest is located outside the areas of impact.* T. Mallette stated that a weir controls the inlet of Halfmoon Lake and the stream is only a tributary into the pond and does not foresee any impacts to the lake during or after construction.

Jim Kirourac asked if a wildlife passage was to be proposed, what size passage would be recommended. G. Infascelli responded that minimum 36" pipe would be acceptable. (Further discussion indicated that concrete is preferred, corrugated metal is acceptable, but plastic pipe is not.)

M. Urban stated that the project should evaluate the possibility for an independent wildlife passage within this location and that the preferred option of the Twin 54" RCP pipes are acceptable at this time. Highway Design would likely present the entire project in a few months after Slope and Drain has been completed.

This project has been previously discussed at the 2/17/2016 Monthly Natural Resource Agency Coordination Meeting.

Orford, #40366 (X-A004(371))

Christine Perron provided an overview of the project area and resources identified to date. This project will address Bridge 217/112, which carries NH Route 25A over Brackett Brook in Orford, approximately 1 mile west of the Wentworth town line. West of the bridge, the stream flows down a steep slope and is parallel to the roadway before it flattens out and takes a sharp turn at the bridge. East of the bridge, the stream flows through an open field associated with a youth camp before it outlets into Pond Brook.

Kim Smith provided an overview of the bridge. The bridge was constructed in 1929 and consists of a 2-span concrete slab with a length of 40' and width of 35.7'. The deck, substructure, and superstructure are in poor condition and there is significant scour at the abutment. The bridge has been on the NHDOT Red List since 2013.

This area was impacted by a flood event in early July and there were substantial washouts along NH Route 25A, Brackett Brook, and other stream crossings. The NHDOT has completed repairs at all flood damaged locations, including bank stabilization and channel reshaping in Brackett Brook immediately upstream of the NH Route 25A bridge.

A wetland delineation was completed at the site. There are three areas of forested wetlands along an overflow area east of the bridge and south of NH Route 25A. This overflow area appeared to carry a substantial amount of water during the recent flood event, as evidenced by a large amount of sediment and debris. The bridge is a Tier 3 stream crossing with a watershed of 4.2 square miles. The approximate

bankfull width is 26' to 30'. A stream assessment will be completed in the near future. Brackett Brook is not listed as impaired and is designated as an Outstanding Resource Water. Water quality will be considered as the project progresses. At this early phase, an increase in impervious is not anticipated. The Natural Heritage Bureau has no records of rare species or exemplary natural communities. The only federally listed species of potential concern is the northern long-eared bat. The bridge was reviewed for potential bat roosting. No evidence of roosting was observed and there are limited potential roost sites on the bridge. A Zone A floodplain is located approximately 200' downstream of the project area and will be taken into account during the alternatives analysis.

The project is just getting underway and the purpose of the meeting today was to get feedback on potential concerns to take into consideration during the alternatives analysis. Based on the tentative schedule for the project at this time, design alternatives and preliminary impacts will be reviewed with the resource agencies in January 2018. A NHDOT public hearing, if needed, would be in the spring of 2018. The project is scheduled to advertise in 2020.

Carol Henderson asked where all the sediment came from during the flood event. C. Perron replied that she didn't review the upper reaches of the watershed. The mountainous terrain in the watershed does make the streams quite flashy and the flood event involved a substantial amount of rain in a short amount of time.

Gino Infascelli noted that he reviewed a number of requests for emergency authorization in this area after the rain event, including one just downstream of the bridge for the driveway of Camp Moosilauke. Subsequent to the meeting, he provided the name of the engineer that he spoke with regarding that site.

No other concerns were raised about resources in the project area.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.